

Work Order ID 147211

Tuesday, June 07, 2016 1:16:17 PM

147211

Page 1

Item ID: 647.1702

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Skid Deflector Assembly

Start Date: 6/24/2016 Start Qty: ~~1.00~~ ³ ***1***

Cust Item ID:

Required Date: 7/5/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: dm Date: 16/06/07 Tooling: _____ Date: _____Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
647.1700	E								

110 Pick Kit 0.00

110

Packaging Memo 0.00

Packaging

DAS
6
9-89

JUN 09 2016

120 0.00

120

Small Fab Memo 0.08

Small Fab

1- Assemble item 4,6,7 and 8 as per dwg.

2- Clamp item 1 and 2 to item 3. Transfer drill holes as per dwg see note 6. Use clecos.

3- Disassemble parts

4- Deburr

5- Touch up expose aluminum with alodine

6- Re-assemble as per dwg

3x

DAS
36
9-89
16/07/06

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER :							
Misidentified ☐	☐	Past Due								

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause				FAULT CATEGORY																					
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____																			

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147211

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Item ID: 647.1702 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Skid Deflector Assembly
 Start Date: 6/24/2016 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 7/5/2016 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190 *190* Small Fab Small Fab	Memo ASSEMBLE AS PER DWG	0.00 DAS 38 9-89							
200 *200* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 DAS 38 9-89							
210 *210* Packaging Packaging	Identify as per dwg & Stock Location <u>CK033</u> Memo ***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***	0.00 0.00				3	DAS 6 9-89		JUL 12 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER : _____							
Misidentified ☐	☐	Past Due								

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Item ID: 647.1702 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Skid Deflector Assembly
Start Date: 6/24/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 7/5/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	QC21- Final Inspection - Work Order Release	0.00							
220									
QC	Memo	0.02							
Quality Control									

[Handwritten signature and date 16/07/12 over the table]

DAS
21
9-89 JUL 12 2016

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
2008 8 1 10								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
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Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Picklist Print

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Page 1

Work Order ID: 147211

147211

Parent Item: 647.1702

647 1702

Parent Item Name: Skid Deflector Assembly

Start Date: 6/24/2016

Required Date: 7/5/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A NEW ISSUE 13.07.17 JLM VERIFIED BY:DD IPP
REV:B 14.09.26 AS PER DWG C1 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MS21042-3 *MS21042-3* Nut / use MS21042L3	MS21042L3	Purchased	No				Each	22.0000	**	13	134634		DAS 6 9-89
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				ST304			22						DAS 6 9-89
647.1712 *647 1712* Gusset		Manufactured	No		M129682		Each	10.0000	**	3			
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				CCK036			10						DAS 6 9-89
				138336			10						
647.1713 *647 1713* Spacer		Manufactured	No				Each	37.0000	**	3			
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				CCK108			37						
				104845			36						
				99057			1						
601.1915 *601 1915* Rivet (CR3213-4-4)	CR3213-4-4	Purchased	No				Each	0.0000	**	22	134654 x 42 134376 x 1 134962 x 23		DAS 6 9-89

JUN 09 2016

JUN 09 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
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Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
																								OTHER : ☐																																							

Picklist Print

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Work Order ID: 147211

147211

Parent Item: 647.1702

647 1702

Parent Item Name: Skid Deflector Assembly

Start Date: 6/24/2016

Required Date: 7/5/2016

Start Qty: 1.00

Required Qty: 1.00

601.1607 NAS1149F0332P Purchased No

Each 19.0000

601 1607

Washer (NAS1149F0332P)

**

2.6
134676
DAS
6
9-89

Location

Loc Qty

Loc Code

ST522

19

m123185

19

Each

0.0000

601.1622 MS27039-1-14 Purchased No

601 1622

Screw(MS27039-1-14)

**

4.5
124326
DAS
6
9-89

647.1714 Manufactured No

Each

10.0000

647 1714

Plate

**

4.3
DAS
6
9-89

Location

Loc Qty

Loc Code

CCK044

10

126237

4

135635

6

Each

9.0000

647.1715 Manufactured No

647 1715

Plate

**

3
3
3
DAS
6
9-89

Location

Loc Qty

Loc Code

CCK044

9

126238

4

135636

5

3
3
3

JUN 09 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

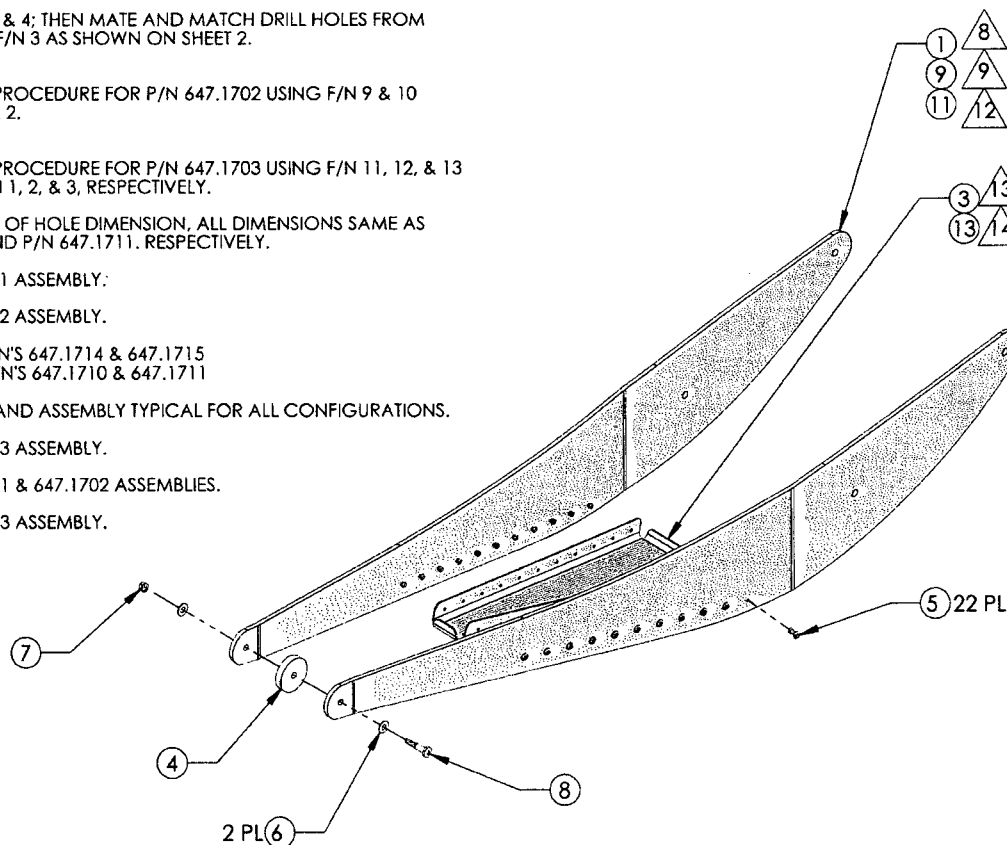
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																									
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										QC / QA Coordinator Approval																																							
Root Cause		FAULT CATEGORY																																															
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	<table style="width: 100%; border: none;"> <tr> <td style="border: none;">Pressure/Forced ☐</td> <td style="border: none;">Temperature/Cure ☐</td> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Bending ☐</td> <td style="border: none;">Set-up ☐</td> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">Centre Not Concentric ☐</td> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Cracks ☐</td> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Cuffs ☐</td> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Crushing ☐</td> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Heat Treat ☐</td> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Wave/Twist in Tube ☐</td> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Marks/Chatter ☐</td> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table>								Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
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		OTHER : ☐																																															

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NOTES:

- 1 MATERIAL: 7075-T6 ALUMINUM PER AMS-QQ-A-250/12.
- 2 MATERIAL: 6061-T6 ALUMINUM BAR IAW AMS-QQ-A-250/11.
- 3 FINISH IAW MPP-172, SECTIONS 2.1, 3.1, & 4.2.
- 4 DEBURR AND BREAK ALL SHARP EDGES.
- 5 IDENTIFY IAW MPP-120.
- 6 P/N 647.1701:
CLAMP F/N 1, 2, & 4; THEN MATE AND MATCH DRILL HOLES FROM F/N 1 & 2 ONTO F/N 3 AS SHOWN ON SHEET 2.
- P/N 647.1702:
FOLLOW SAME PROCEDURE FOR P/N 647.1702 USING F/N 9 & 10 IN PLACE OF 1 & 2.
- P/N 647.1703:
FOLLOW SAME PROCEDURE FOR P/N 647.1703 USING F/N 11, 12, & 13 IN PLACE OF F/N 1, 2, & 3, RESPECTIVELY.
- 7 WITH EXCEPTION OF HOLE DIMENSION, ALL DIMENSIONS SAME AS P/N 647.1710 AND P/N 647.1711. RESPECTIVELY.
- 8 FOR P/N 647.1701 ASSEMBLY.
- 9 FOR P/N 647.1702 ASSEMBLY.
- 10 .323" DIA FOR P/N'S 647.1714 & 647.1715
.257" DIA FOR P/N'S 647.1710 & 647.1711
- 11 RIVET SPACING AND ASSEMBLY TYPICAL FOR ALL CONFIGURATIONS.
- 12 FOR P/N 647.1703 ASSEMBLY.
- 13 FOR P/N 647.1701 & 647.1702 ASSEMBLIES.
- 14 FOR P/N 647.1703 ASSEMBLY.



REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE REVISION: PR2		N/C
N/C	INITIAL RELEASE	08/05/09	P. BRAVO
A	INCORPORATED ECN'S 02937 & 03921	06/07/13	P. BRAVO
B	INCORPORATED ECN 03970	07/03/13	P. BRAVO
C	INCORPORATED ECN 04058	08/14/13	P. BRAVO
D	INCORPORATED ECN'S 04679, 04702 & 04964	05/29/15	P. BRAVO
E	INCORPORATED ECN 05352	03/21/16	P. BRAVO

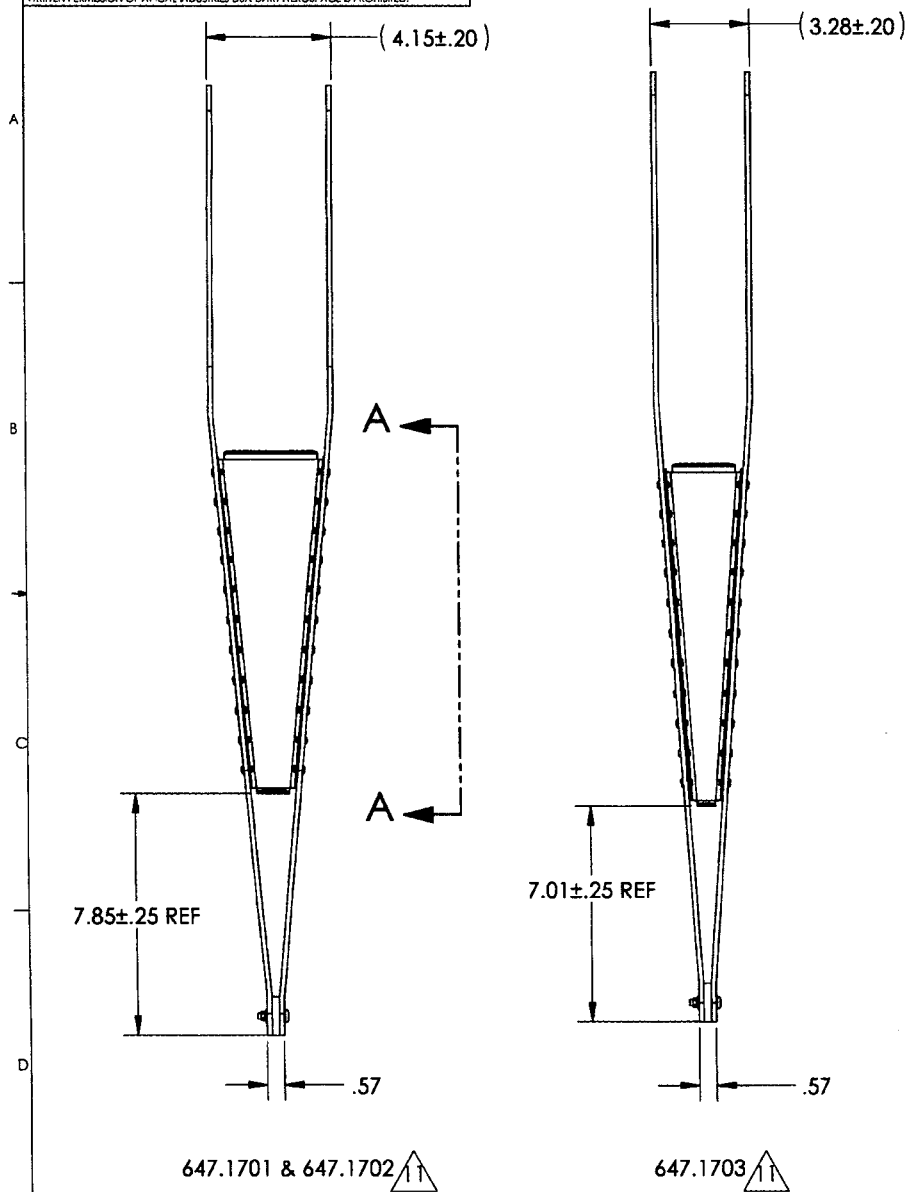
1			13	647.1718	GUSSET		△	△
1			12	647.1717	PLATE		△	△
1			11	647.1716	PLATE		△	△
	1		10	647.1715	PLATE		△	△
	1		9	647.1714	PLATE		△	△
1	1	1	8	601.1622	SCREW	MS27039-1-14		
1	1	1	7	601.2943	LOCKNUT	MS21042-3		
2	2	2	6	601.1607	WASHER	NAS1149F0332P		
22	22	22	5	601.1915	RIVET	CR3213-4-4		
1	1	1	4	647.1713	SPACER		△	△
	1	1	3	647.1712	GUSSET		△	△
		1	2	647.1711	PLATE		△	△
		1	1	647.1710	PLATE		△	△
X				647.1703	SKID DEFLECTOR ASSY			
	X			647.1702	SKID DEFLECTOR ASSY			
		X		647.1701	SKID DEFLECTOR ASSY			
.1703	.1702	.1701	FIND #	PART #	DESCRIPTION	MATL	SPEC.	

NEXT ASSY (S)		ORIGINAL DATE		DART 3030 ENTERPRISE CT., SUITE A, VISTA, CA, 92081 (760)-724-5300	
647.1300		08/05/09		APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
DRAWN BY: S. HUFF		CHECKED BY: P. BRAVO		SKID DEFLECTOR ASSY	
DRAWING APPROVAL: P. BRAVO		CONTRACT NO.		SCALE: NONE	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: 2 PLACE DECIMALS ± .01, 3 PLACE DECIMALS ± .005, ANGLES ± .5°		SHEET 1 OF 7		REV. E	

w/o 147211

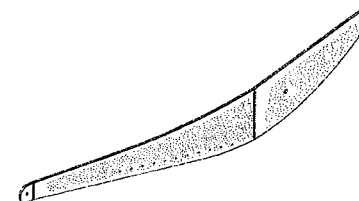
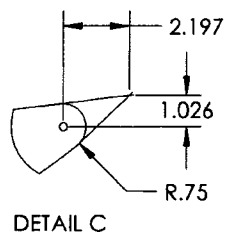
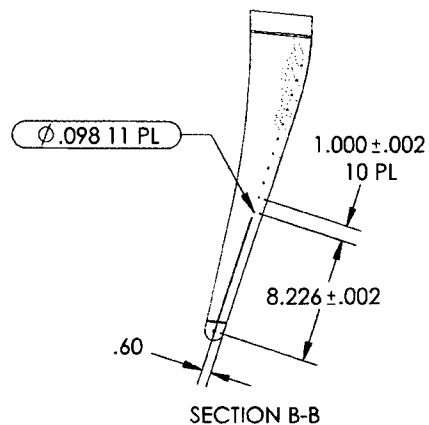
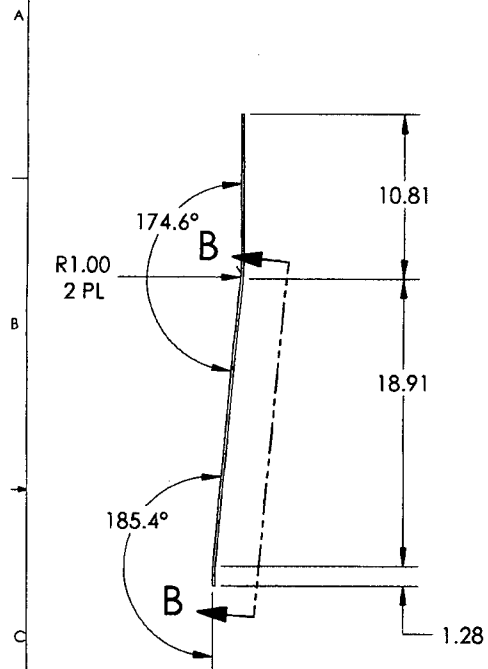
Rm 16/06/07

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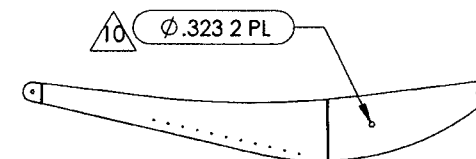


ORIGINAL DATE 08-05-07		3030 ENTERPRISE CT., SUITE A	
DRAWN BY S. HUFF		VISTA, CA 92081 (760) 724-5300	
CHECKED BY P. BRAVO		APICAL INDUSTRIES, INC. dba DART AEROSPACE	
DRAWING APPROVAL P. BRAVO (08/05/07)		SKID DEFLECTOR ASSY	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°			
SHEET B	CAUSE CODE 07MZ6	DWG. NO. 647.1700	REV. E
SCALE NONE		SHEET 2 OF 7	

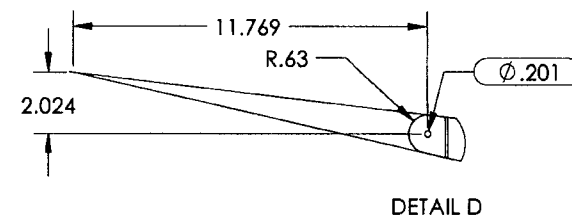
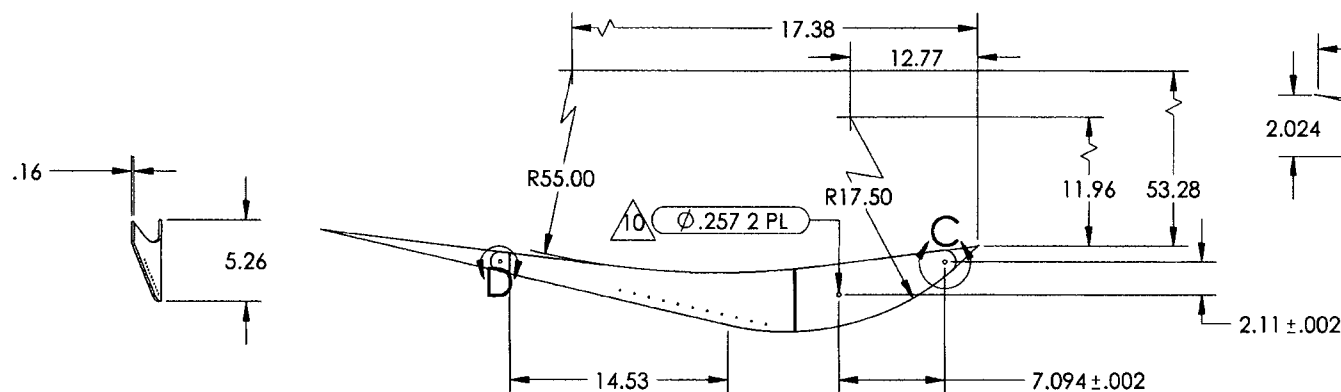
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647.1711 SHOWN
647.1710 OPPOSITE



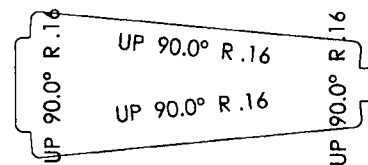
647.1714 SHOWN
647.1715 OPPOSITE



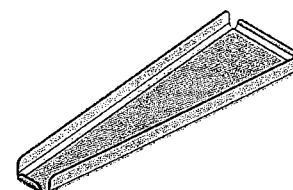
ORIGINAL DATE 11-02-01	DESIGN 08-05-01	3030 ENTERPRISE CT., SUITE A VISTA, CA. 92081 (760)-724-5300
DRAWN BY S. HUFF	CHECKED P. BRAVO	
DRAWING APPROVAL P. BRAVO		
CONTRACT NO.		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ± .5°		
SIZE B	CAGE CODE 07M26	DWG. NO. 647.1700
SCALE NONE		REV. E
		SHEET 3 OF 7

DART AEROSPACE
APICAL INDUSTRIES INC.
DBA DART AEROSPACE
SKID DEFLECTOR ASSY

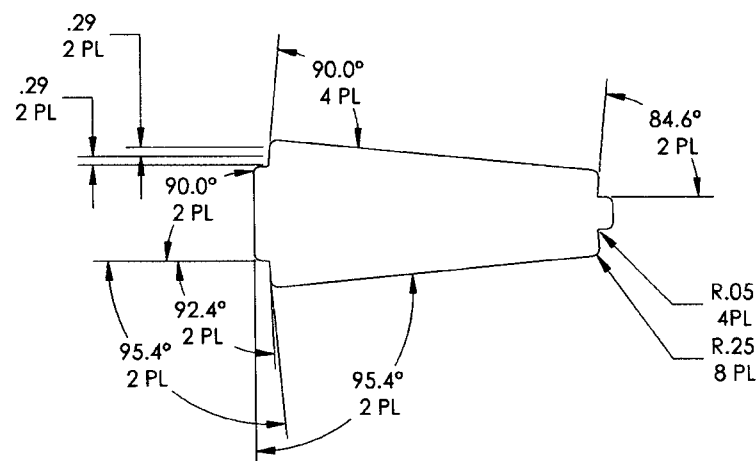
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FLAT PATTERN

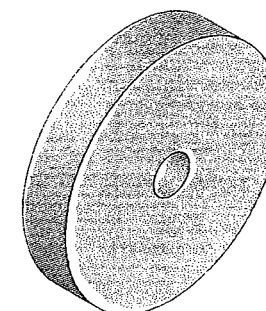
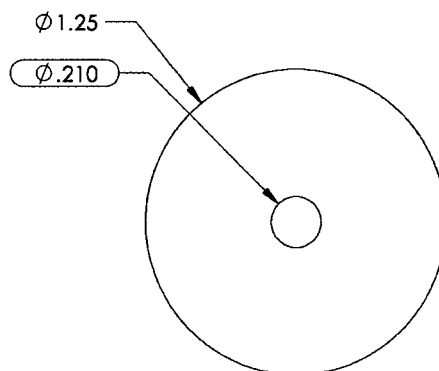
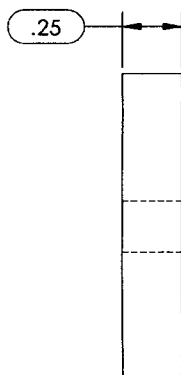


647.1712



ORIGINAL DATE 01-05-02		3030 ENTERPRISE CT., SUITE A	
DRAWN BY S. HUFF	CHECKED P. BRAVO	VISTA, CA 92081 (760)-724-5300	
DRAWING APPROVAL P. BRAVO 08/03/02		APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
CONTRACT NO.		SKID DEFLECTOR ASSY	
SIZE B	CAGE CODE 07M26	DWG. NO. 647.1700	REV. E
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SCALE NONE	SHEET 4 OF 7

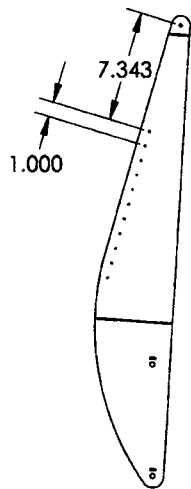
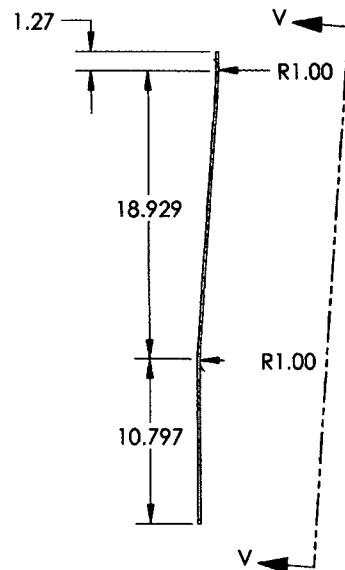
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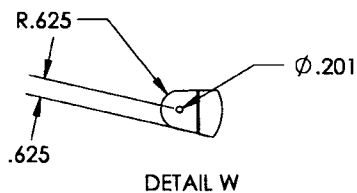
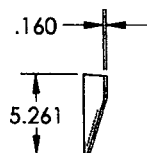
647.1713

ORIGINAL DATE (INC-20-10)		08-05-09	
DRAWN BY S. HUFF		CHECKED P. BRAVO	
DRAWING APPROVAL P. BRAVO 08-05-09			
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS $\pm .01$ 3 PLACE DECIMALS $\pm .005$ ANGLES $\pm .5^\circ$			
DART AEROSPACE APICAL INDUSTRIES INC. 600 DART AEROSPACE		3030 ENTERPRISE CT., SUITE A VISTA, CA 92081 (760)-724-5300	
SKID DEFLECTOR ASSY			
SIZE B	CAGE CODE 07ML6	DWG. NO. 647.1700	REV. E
SCALE NONE		SHEET 5 OF 7	

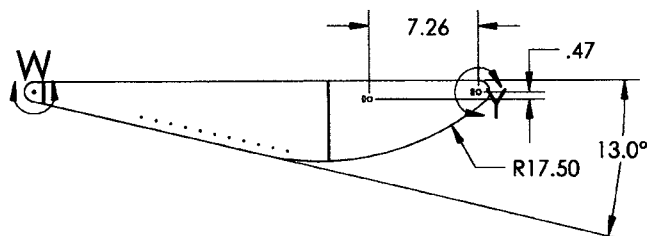
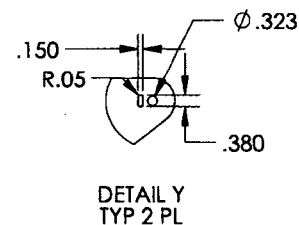
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.



VIEW V-V

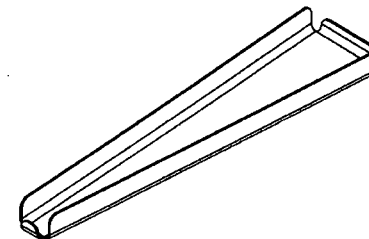
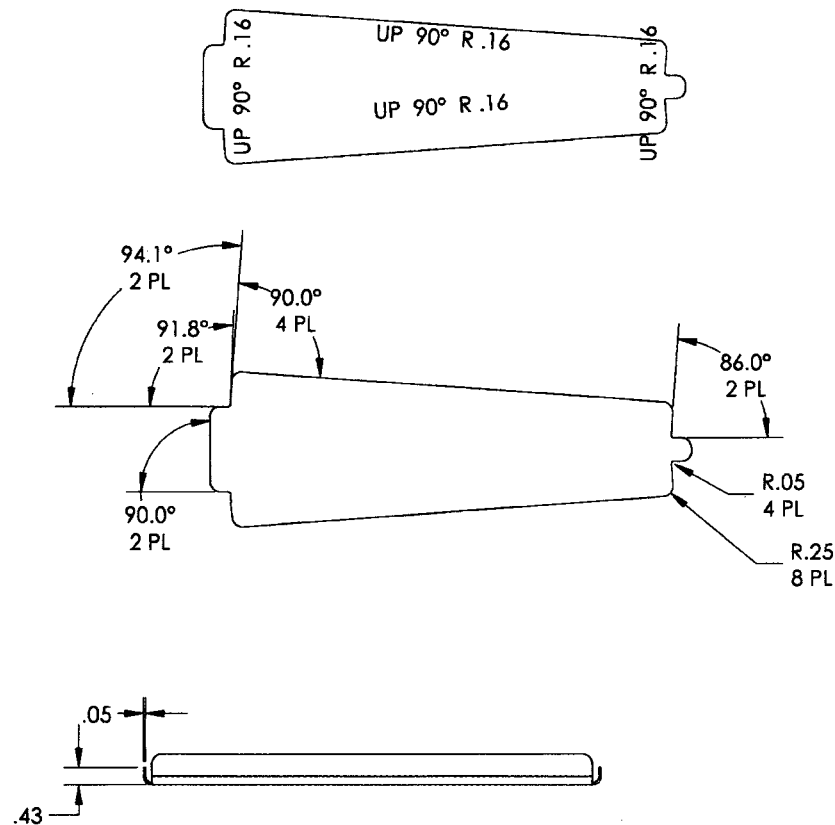
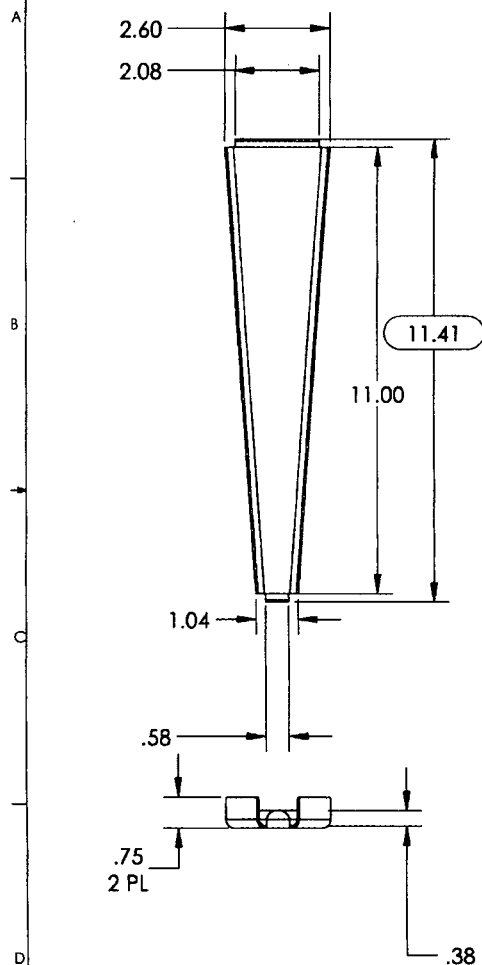


647.1716 SHOWN
647.1717 OPPOSITE



ORIGINAL DATE 10-05-09		3030 ENTERPRISE CT., SUITE A	
DRAWN BY S. HUFF		VISTA, CA. 92081	
CHECKED P. BRAVO		(760)-724-5300	
DRAWING APPROVAL P. BRAVO		APICAL INDUSTRIES, INC. DBA DART AEROSPACE	
CONTRACT NO.		SKID DEFLECTOR ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°			
SIZE B	CAGE CODE 07M26	DWG. NO. 647.1700	REV. E
SCALE NONE		SHEET 6 OF 7	

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647.1718

ORIGINAL DATE 10-05-01		3030 ENTERPRISE CT., SUITE A VISTA, CA, 92081 (760)-724-5300	
DRAWN BY S. HURT		CHECKED BY P. BRAVO	
DRAWING APPROVAL P. BRAVO 08-05-01		APICAL INDUSTRIES INC. DBA DART AEROSPACE	
CONTRACT NO.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 7 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.003 ANGLES ± .5°			
SHEET B	CAGE CODE 07M26	DWG. NO. 647.1700	REV. E
SCALE NONE			SHEET 7 OF 7